



BUILDING COMMISSIONING

for better public buildings

CASE STUDY



The new Community Hospital addition in Othello, Washington.

"This was the general contractor's first experience with commissioning. Since then, we have a contract to commission a \$25 million hospital renovation in Montana by the same contractor."

- Gerald D. Ensminger, TestComm, LLC

COMMISSIONING QUICK FACTS

Building: Othello Community Hospital

Location: Othello, Washington

Completion date: Fall 2000

Scope of project: New construction

Commissioning cost: \$67,100¹

First-year cost benefit: \$9,480²

Annual energy savings: \$7,290³

¹ Commissioning providers fee only.

² Cost reduction or avoidance.

³ Annual energy savings based on cost of electricity of \$0.0494/kWh and natural gas of \$0.755 /therm.

A SMALL-TOWN WASHINGTON HOSPITAL FINDS NEW LIFE

Othello Community Hospital in Othello, Washington was faced with a life and death decision in 1998 - die economically or expand its services. The owners elected to expand and constructed a three-story, 54,000 square-foot, state-of-the-art medical facility addition to their current building.

They also made the commitment to commission the addition. In medical facilities, it is particularly critical that all systems operate properly. If there are problems, they must be identified and resolved so there is no risk that staff and patients are adversely affected. Commissioning did just that.

Numerous deficiencies were discovered and resolved during the commissioning of the facility that included medical spaces (surgery, radiology, emergency, and examination rooms), office spaces and rooms for mechanical and electrical equipment. For example, an improperly calibrated CO2 sensor in an air-handling duct caused an additional 2,000 cfm of unconditioned air to be brought into the building unnecessarily. This increased the heating and cooling load and wasted energy.

Commissioning also identified a short-cycle chiller that was continuously cycling during low-load situations. This was solved by modifying the control

BUILDING COMMISSIONING

Is a systematic and documented process of ensuring that the owner's operational needs are met, building systems perform efficiently, and building operators are properly trained.

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Commissioning provider documenting test results at Othello Hospital.

COMMISSIONING BENEFITS

- Facility operational immediately upon occupancy
- Defects in equipment, systems, and operation were identified and corrected
- Problems found and resolved prior to affecting staff and patients
- Avoided potential maintenance problems
- Owner assurance that building systems would operate properly

"We now are recommending commissioning on numerous projects."

- MW Engineers, design engineers

sequence so that the chiller is disabled if the outside air temperature is less than 50 degrees F. The control change also will increase the equipment life and reduce maintenance. Excessive vibration was noted at the medical air compressor piping. If not corrected this could have been a life safety issue if the piping failed during critical hospital operations.

The Othello Community Hospital addition was operational immediately upon occupancy. This was good news to the medical staff who could concentrate on their patients and not worry that building systems weren't working properly. The energy that was saved during the commissioning process was an added bonus. Othello Community Hospital's new addition gave it life and made it a true "regional" hospital ready to meet the demands of the 21st century.

LESSONS LEARNED

- Use the commissioning plan to establish channels of communication.
- Identify the commissioning provider as a member of the "team" from the beginning.
- Begin commissioning early on in the design phase.

PROJECT PARTNERS

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